



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-1015; Project Identifier 2019-CE-014-AD]

RIN 2120-AA64

Airworthiness Directives; DG Flugzeugbau GmbH and Schempp-Hirth

Flugzeugbau GmbH Gliders

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for DG Flugzeugbau GmbH Model DG-1000T gliders and Schempp-Hirth Flugzeugbau GmbH Model Duo Discus T gliders with a Solo Kleinmotoren GmbH Solo Model 2350C or 2350D engine installed. This proposed AD was prompted by mandatory continuing airworthiness information (MCAI) issued by the aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as failure of the bearing of the upper pulley of the belt driven reduction gear resulting in separation of the propeller from the engine. This proposed AD would require replacing a certain hex-nut and would establish a lift limit for the ball bearing assembly. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Solo Kleinmotoren GmbH, Postfach 600152, D71050 Sindelfingen, Germany; phone: +49 703 1301-0; fax: +49 703 1301-136; email: aircraft@solo-germany.com; website: <http://aircraft.solo-online.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1015; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the MCAI, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Jim Rutherford, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-1015; Project Identifier 2019-CE-014-AD” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA

will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Jim Rutherford, Aviation Safety Engineer, FAA, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 901 Locust, Room 301, Kansas City, MO 64106. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2019-0029, dated February 8, 2019 (referred to after this as “the MCAI”), to address an unsafe condition on Solo Kleinmotoren GmbH Solo Model 2350B, 2350BS, 2350C, and 2350D engines. The MCAI states:

An occurrence was reported of failure of the bearing of the upper pulley of the belt driven reduction gear, resulting in separation of the propeller from the engine.

This condition, if not corrected, could lead to similar occurrences, with possible reduced control of, and damage to, the aircraft.

To address this potential unsafe condition, Solo redesigned the nut securing the pulley bearing on the axle and introduced a life time limit of 15 years for the reduction gear bearings.

For the reason stated above, this [EASA] AD requires replacement of affected parts with serviceable parts, and introduces a life limit for the affected ball bearings.

You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1015.

Related Service Information under 1 CFR Part 51

The FAA reviewed Solo Kleinmotoren GmbH Service Bulletin 4603-18, dated January 22, 2019. The service information contains procedures for replacing the hex-nut at the excentric axle and the ball bearing assemblies at the bearing block of the reduction gear. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

FAA's Determination

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA is issuing this NPRM after determining the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in This NPRM

This proposed AD would require removing the affected hex-nut from service and replacing it with a flange-nut. This proposed AD would also establish a lift limit of 15 years for the affected ball bearing assemblies.

Differences Between this Proposed AD and the MCAI or Service Information

The MCAI applies to Solo Kleinmotoren GmbH Solo Model 2350B, 2350BS, 2350C, and 2350D engines. None of these model engines have an FAA engine type

certificate. However, Model 2350C and Model 2350D engines are certificated by the FAA with the type certificate for certain gliders. This proposed AD would not apply to Solo Kleinmotoren GmbH Solo Model 2350B and 2350BS engines because they are not part of an FAA glider type design.

The MCAI requires replacing an affected ball bearing assembly before it accumulates 15 years since first installation on an engine. This proposed AD would require replacing both ball bearing assemblies simultaneously before either accumulates 15 years since first installation on an engine.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 10 gliders of U.S. registry. The FAA estimates that for gliders with an affected hex-nut, replacement would take about 0.5 work-hour and require a part costing \$95. The average labor rate is \$85 per work-hour. Based on these figures, the FAA estimates the cost to replace the hex-nut on U.S. operators to be \$1,380 (assuming all 10 gliders have this configuration) or \$138 per glider.

In addition, the FAA estimates that for gliders with the affected ball bearing assemblies, replacement would take about 4 work-hours for both ball bearing assemblies and require ball bearing assemblies costing \$118 (2 units). The average labor rate is \$85 per work-hour. Based on these figures, the FAA estimates the cost of the ball bearing assembly replacement on U.S. operators to be \$4,580 (assuming all 10 gliders have this configuration) or \$458 per glider.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

DG Flugzeugbau GmbH and Schempp-Hirth Flugzeugbau GmbH Gliders: Docket No. FAA-2021-1015; Project Identifier 2019-CE-014-AD.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to DG Flugzeugbau GmbH Model DG-1000T gliders and Schempp-Hirth Flugzeugbau GmbH Model Duo Discus T gliders, certificated in any category, with a Solo Kleinmotoren GmbH Solo Model 2350C or 2350D engine, all serial numbers, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7200, Engine
(Turbine/Turboprop).

(e) Unsafe Condition

This AD was prompted by mandatory continuing airworthiness information (MCAI) issued by the aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as failure of the bearing of the upper pulley of the belt driven reduction gear. The FAA is issuing this AD to prevent separation of the propeller from the engine. The unsafe condition, if not addressed, could result in loss of control of the aircraft.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Actions and Compliance

(1) Within 12 months after the effective date of this AD, remove the nut installed at the excentric axle from service and replace it with a nut in accordance with the Condition section, paragraph a, of Solo Kleinmotoren GmbH Service Bulletin 4603-18, dated January 22, 2019.

(2) Before either ball bearing assembly at the bearing block of the reduction gear accumulates 15 years since first installation on an engine or within 12 months after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed 15 years, remove both ball bearing assemblies from service and replace with new (zero hours time-in-service) ball bearing assemblies in accordance with the Condition section, paragraph b, of Solo Kleinmotoren GmbH Service Bulletin 4603-18, dated January 22, 2019.

(3) After replacing the ball bearing assemblies required by paragraph (g)(2) of this AD, record compliance in the aircraft log book. The entry must include: (1) reduction gear part number (P/N) and serial number; and (2) date ball bearing assemblies were replaced.

(4) As of the effective date of this AD, do not install a hex-nut P/N 0028143 on any engine.

(5) As of the effective date of this AD, do not install ball bearing assembly P/N 0050110 on any engine unless it is new (zero hours time-in-service).

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i)(1) of this AD or email: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

(1) For more information about this AD, contact Jim Rutherford, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov.

(2) Refer to European Aviation Safety Agency (EASA) AD 2019-0029, dated February 8, 2019, for more information. You may examine the EASA AD in the AD docket at <https://www.regulations.gov> by searching for and locating it in Docket No. FAA-2021-1015.

(3) For service information identified in this AD, contact Solo Kleinmotoren GmbH, Postfach 600152, D71050 Sindelfingen, Germany; phone: +49 703 1301-0; fax: +49 703 1301-136; email: aircraft@solo-germany.com; website: <http://aircraft.solo-online.com>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued on November 19, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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